

TRANSMITTAL FORM

(to be used for all correspondence after initial filing)

Total Number of Pages in This Submission

10 PAGES
2/6/04

Application Number	10/647,088
Filing Date	August 21, 2003
First Named Inventor	Irving BOIME
Art Unit	1645
Examiner Name	Not Yet Assigned
Attorney Docket Number	295002005901

ENCLOSURES (Check all that apply)

<input type="checkbox"/> Fee Transmittal Form <input type="checkbox"/> Fee Attached <input type="checkbox"/> Amendment/Reply <input type="checkbox"/> After Final <input type="checkbox"/> Affidavits/declaration(s) <input type="checkbox"/> Extension of Time Request <input type="checkbox"/> Express Abandonment Request <input checked="" type="checkbox"/> Information Disclosure Statement (3); PTO Form 1449 (3) <input type="checkbox"/> Certified Copy of Priority Document(s) <input type="checkbox"/> Response to Missing Parts/Incomplete Application <input type="checkbox"/> Response to Missing Parts under 37.CFR 1.52 or 1.53	<input type="checkbox"/> Drawing(s) <input type="checkbox"/> Licensing-related Papers <input type="checkbox"/> Petition <input type="checkbox"/> Petition to Convert to a Provisional Application <input type="checkbox"/> Power of Attorney, Revocation Change of Correspondence Address <input type="checkbox"/> Terminal Disclaimer <input type="checkbox"/> Request for Refund <input type="checkbox"/> CD, Number of CD(s) _____	<input type="checkbox"/> After Allowance Communication to Group <input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences <input type="checkbox"/> Appeal Communication to Group (Appeal Notice, Brief, Reply Brief) <input type="checkbox"/> Proprietary Information <input type="checkbox"/> Status Letter <input checked="" type="checkbox"/> Other Enclosure(s) (please identify below): References (17) Return Postcard
---	--	---

Remarks

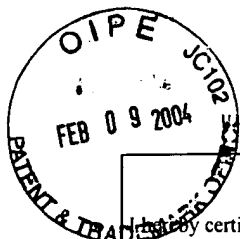
Customer Number 25225

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm or Individual name	MORRISON & FOERSTER LLP Kate H. Murashige - 29,959
Signature	<i>Kate H. Murashige</i>
Date	February 6, 2004

I hereby certify that this correspondence is being deposited with the U.S. Postal Service with sufficient postage as First Class Mail, in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on the date shown below.

Dated: 2/6/04 Signature: Jamie M. Procopio (Jamie Procopio)



PATENT
Docket No. 295002005901

CERTIFICATE OF MAILING BY "FIRST CLASS"

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to:
Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450, on February 6, 2004.

Tami M. Procopio
Tami M. Procopio

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In the application of:

BOIME and BEN-MENAHM.

Serial No.: 10/647,088

Filing Date: August 21, 2003

For: MULTIPLE DOMAIN
GLYCOPROTEIN HORMONES AND
METHODS OF USING

Examiner: Unassigned

Group Art Unit: 1645

**INFORMATION DISCLOSURE
STATEMENT UNDER 37 C.F.R. § 1.97 & 1.98**

Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Dear Sir:

Pursuant to 37 C.F.R. § 1.97 and § 1.98, Applicants submit for consideration in the above-identified application the documents listed on the attached Form PTO-1449. Copies of document numbers 2-12, 14, 19, 21, 23-24, 30, and 33 were previously submitted in an Information Disclosure Statement and/or Office Action, directed to the related application Serial Number 08/971,439 filed 17 November 1997, and, accordingly, copies are not included herewith. This protocol conforms with 37 C.F.R. § 1.98(d) and M.P.E.P. 609(A)(2). The Examiner is requested to make these documents of record in the application.

Serial No.10/647,088
Docket No.295002005901

Document number 1 listed on the attached Form PTO-1449 was cited in an International Preliminary Examination Report mailed on July 3, 2000 (copy attached) directed to a counterpart international or foreign application.

This Information Disclosure Statement is submitted:

- ☐ With the application; accordingly, no fee or separate requirements are required.
- ☐ Before the mailing of a first Office Action after the filing of a Request for Continued Examination under § 1.114.
- ☒ Within three months of the application filing date or before mailing of a first Office Action on the merits; accordingly, no fee or separate requirements are required.
- ☐ After receipt of a first Office Action on the merits but before mailing of a final Office Action or Notice of Allowance.
 - ☐ A fee is required. A check in the amount of __ is enclosed.
 - ☐ A fee is required. Accordingly, a Fee Transmittal form (PTO/SB/17) is attached to this submission in duplicate.
 - ☐ A Certification under 37 C.F.R. § 1.97(e) is provided below; accordingly, no fee is believed to be due.
- ☐ After mailing of a final Office Action or Notice of Allowance, but before payment of the issue fee.
 - ☐ A Certification under 37 C.F.R. § 1.97(e) is provided below and a check in the amount of __ is enclosed.
 - ☐ A Certification under 37 C.F.R. § 1.97(e) is provided below and a Fee Transmittal form (PTO/SB/17 is attached to this submission in duplicate.)

Applicants would appreciate the Examiner initialing and returning the Form PTO-1449, indicating that the information has been considered and made of record herein.

The information contained in this Information Disclosure Statement under 37 C.F.R. § 1.97 and § 1.98 is not to be construed as a representation that: (i) a complete search has been made; (ii) additional information material to the examination of this application does

not exist; (iii) the information, protocols, results and the like reported by third parties are accurate or enabling; or (iv) the above information constitutes prior art to the subject invention.

In the unlikely event that the transmittal form is separated from this document and the Patent Office determines that an extension and/or other relief is required, Applicants petition for any required relief including extensions of time and authorize the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to **Deposit Account No. 03-1952** referencing 295002005901. However, the Commissioner is not authorized to charge the cost of the issue fee to the Deposit Account.

Dated: February 6, 2004

Respectfully submitted,

By: Kate H. Murashige
Kate H. Murashige
Reg. No. 29,959
Morrison & Foerster LLP
3811 Valley Centre Drive, Suite 500
San Diego, California 92130-2332
Telephone: (858) 720-5112
Facsimile: (858) 720-5125

Form PTO-1449

Docket Number 295002005901

Application Number 10/647,088

INFORMATION DISCLOSURE CITATION
IN AN APPLICATION

(Use several sheets if necessary)

Applicant

BOIME and BEN-MENAHM

Filing Date August 21, 2003

Group Art Unit 1645

Mailing Date: February 6, 2004

U.S. PATENT DOCUMENTS

Examiner Initials	Ref. No.	Date	Document No.	Name	Class	Subclass	Filing Date If Appropriate
	1.	08/1994	5,338,835	Boime	530	398	
	2.	01/1998	5,705,484	Thomason	214	2	
	3.	05/1995	5,420,247	Gearing et al.	530	350	

FOREIGN PATENT DOCUMENTS

Examiner Initials	Ref. No.	Date	Document No.	Country	Class	Subclass	Translation YES NO
	4.	12/1985	EP 0 163 406	Europe			
	5.	05/1998	EP 0 839 831	Europe			
	6.	05/1985	WO 01959	PCT			
	7.	09/1990	WO 90/09800	PCT			
	8.	11/1991	WO 91/16922	PCT			
	9.	12/1992	WO 92 22568	PCT			
	10.	08/1995	WO 95/22340	PCT			
	11.	02/1996	WO 96/05224	PCT			
	12.	05/1999	WO 99/25849	PCT			

OTHER DOCUMENTS

(including author, title, Date, Pertinent Pages, Etc.)

Examiner Initials	Ref. No.	Title
	13.	Bielinska, <i>J Cell Biol</i> (1990) 111:330a (Abstract 1844).
	14.	Boime et al., "Synthesis of Genetically Fused Single Chain Analog of Human Chorionic Gonadotropin: Implications for Drug Design and Structure-Function Relationships," <i>Proceeding of the Symposium: "The Ovary Regulation, Dysfunction and Treatment,"</i> 1106:25-27 (1996).
	15.	Campbell et al., "Conversion of Human Choriogonadotropin into a Follitropin by Protein Engineering", <i>Proc Natl Acad Sci</i> (1991) 88:760-764.
	16.	Chen and Okayama, "High-Efficiency Transformation of Mammalian Cells by Plasmid DNA", <i>Mol Cell Biol</i> (1987) 7:2745-2752.

EXAMINER: (examiner)

DATE CONSIDERED:

EXAMINER: Initial if citation considered, whether or not the citation conforms with MPEP 609. Draw a line through the citation if not in conformance and not considered. Include a copy of this form with next communication to applicant.

Form PTO-1449 INFORMATION DISCLOSURE CITATION IN AN APPLICATION <i>(Use several sheets if necessary)</i>	Docket Number 295002005901	Application Number 10/647,088
	Applicant BOIME and BEN-MENAHM	
	Filing Date August 21, 2003	Group Art Unit 1645
	Mailing Date: February 6, 2004	

OTHER DOCUMENTS

(including author, title, Date, Pertinent Pages, Etc.)

Examiner Initials	Ref. No.	Title
	17.	Chen et al., "The Carboxy-Terminal Region of the Glycoprotein Hormone α -Subunit: Contributions to Receptor Binding and Signaling in Human Chorionic Gonadotropin" <i>Molec Endocrinol</i> (1992) 6:914-919.
	18.	Dayhoff et al., "A Model of Evolutionary Change in Proteins" <i>Atlas of Protein Sequences and Structure</i> (1972) 5:89-99.
	19.	Duijkers et al., "Follicular Fluid Hormone Concentrations After Ovarian Stimulation Using Gonadotropin Preparations with Different FSH/LH ratios. 1. Comparison of an FSH-Dominant and a Purified FSH Preparation," <i>International Journal of Fertility and Women's Medicine (USA)</i> 42(5):306-310 (1997) [abstract only].
	20.	Erickson et al., "Synthetic α -Subunit Peptides Stimulate Testosterone Production in Vitro by Rat Leydig Cells" <i>Endocrinology</i> (1990) 126:2555-2560.
	21.	Fares, "Design of a Long Acting Follitropin Agonist by Fusing the C-terminal Sequence of the Chorionic Gonadotropin β Subunit to the Follitropin" <i>Proc Natl Acad Sci USA</i> (1992) 89:4304-4308.
	22.	Kuetmann, "Receptor Binding Regions of hLH and hCG β -Subunit: Structural and Functional Properties" pgs. 103-117.
	23.	LaPol, "Enhanced Stimulation of Follicle Maturation and Ovulatory Potential by Long Acting Follicle-Stimulating Hormone Agonists with Extended Carboxyl-Terminal Peptides", <i>Endocrinology</i> (1992) 131:2514-2520.
	24.	Lapthorn, "Crystal Structure of Human Chorionic Gonadotropin" <i>Nature</i> (1994) 369:455-461.
	25.	Lustbader et al., EDS, <i>Springer Verlag</i> (New York) (1994) 122-134.
	26.	Matzuk et al., "Effects of Preventing O-glycosylation on the Secretion of Human Chorionic Gonadotropin in Chinese Hamster Ovary Cells", <i>Proc Natl Acad USA</i> (1987) 84:6354-6358.
	27.	Matzuk et al., "The Glycoprotein α -Subunit is Critical for Secretion and Stability of the Human Thyrotropin β -Subunit" <i>Mol Endocrinol</i> (1988) 2:95-100.
	28.	Matzuk and Boime, "The Role of the Asparagine-linked Oligosaccharides of the α Subunit in the Secretion and Assembly of Human Chorionic Gonadotropin" <i>J Cell Biol</i> (1988) 106:1049-1059.
	29.	Moyle et al., "Co-Evolution of Ligand-Receptor Pairs" <i>Nature</i> (1994) 368:251-255.
	30.	Patel, "A Clasped Embrace" <i>Nature</i> 369:438-439.
	31.	Puett et al., "Delineation of Subunit and Receptor Contact Sites by Site-Directed Mutagenesis of hCG β " <i>Glycoprotein Hormones</i> .
	32.	Sachais et al., "Molecular Basis for the Species Selectivity of the Substance P Antagonist CP-96, 345" <i>Biol Chem</i> (1993) 268:2319.

EXAMINER:

DATE CONSIDERED:

EXAMINER: Initial if citation considered, whether or not the citation conforms with MPEP 609. Draw a line through the citation if not in conformance and not considered. Include a copy of this form with next communication to applicant.

